



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MEMORANDUM

DATE: April 30, 1999

SUBJECT: National Remedy Review Board Recommendations -
Maywood Chemical Company Superfund Site

FROM: John S. Frisco, Manager *JSF*
Superfund Remedial Program

TO: Bruce K. Means, Chair
National Remedy Review Board

I am writing in regard to the recommendations provided by the National Remedy Review Board involving the remedy proposed by the Army Corps of Engineers for the Maywood Chemical Company Superfund site in New Jersey. The Board's comments were forwarded to the Region and subsequently to the Corps in April 1998.

As you recall, the Board raised a number of concerns involving the Corps' remedial approach for the site. One of the more significant concerns related to the land use assumptions and cleanup goals identified by the Corps, given the close proximity of the site to residences, the difficulties in establishing and enforcing institutional controls, the preferences of the affected community, etc. The Board recognized that cleanup to commercial levels together with institutional controls may be viable for some land parcels, such as those owned by the federal government or Stepan Chemical, it may not be for others. As a result, the Board recommended that the Corps evaluate a cleanup alternative that would allow appropriate portions of the site property to be used for unrestricted or residential purposes.

The land use issue and corresponding cleanup criteria have been points of contention between EPA and the Corps, formerly the Department of Energy, for some time. The issue was discussed at a senior-level meeting in Washington which you attended. We believe that the Corps and EPA have reached agreement on the cleanup issue as reflected in the Corps' proposed plan for the Wayne Superfund site, reviewed by the Board in March. Briefly, the Corps has agreed to clean up the Wayne site to residential levels, or 5 pCi/g of radium and thorium.

Attached for your information is the Corps' response to the Board's recommendations on the Maywood proposed remedy. It appears to reflect the above cleanup agreement, although we have not yet received the revised proposed plan. Once received, we will evaluate the proposed plan to ensure that all of EPA's comments have been adequately addressed.

The Region appreciates your efforts and those of the Board in helping to resolve the land use and cleanup criteria issues at the Maywood and Wayne sites.

If you have any questions, do not hesitate to contact me.



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF

Programs and Projects Management Division

24-FEB-99

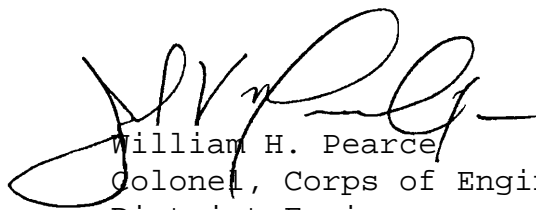
Mr. John Frisco
United States Environmental Protection Agency
Region 2
290 Broadway
New York, New York 10007-1866

Dear Mr. Frisco:

I received your letter dated April 30, 1998 with respect to the Maywood Chemical Company Superfund Site located in New Jersey. Thank you for the explanation of the role of the National Remedy Review Board (NRRB). We appreciate the time that was taken by the NRRB to prepare these valuable comments and recommendations. The NRRB comments have been reviewed by our technical staff and the Corps' responses are enclosed.

Should you have any questions about this matter, please contact my Project Manager, Mr. Allen D. Roos at (212) 264-0120.

Sincerely,


William H. Pearce
Colonel, Corps of Engineers
District Engineer

Enclosure

**EPA NATIONAL REMEDY REVIEW BOARD COMMENTS AND RESPONSES ON
THE FEASIBILITY STUDY AND PROPOSED PLAN FOR THE MAYWOOD SITE
MAYWOOD, NEW JERSEY (December 1997)**

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1		<p>The Board believes that the land use assumptions (commercial/industrial) and cleanup goals (15pCi/g) associated with the preferred alternative may not be appropriate for the entire site. The Board recommends that the Army Corps of Engineers (Corps) reassess these assumptions and goals, taking into account the following concerns:</p> <ul style="list-style-type: none"> • The site's proximity to residences, • Housing development pressures as illustrated by development on and adjacent to the site property, • Complications posed by multiple landowners, political jurisdictions, and public easements (e.g., roads and utilities) in establishing institutional controls, • The importance of institutional controls in ensuring remedy protectiveness over the long term at this site, and • The stated preference of the Maywood Technical Assistance Group that any cleanup allow unrestricted property use. <p>Because of these concerns the Board recommends that the Corps develop and consider a cleanup alternative that will allow unrestricted land use where appropriate. While the capital costs for such an alternative may be higher than those of the preferred alternative, an unrestricted land use alternative may still be cost effective in that it offers the added benefits of greater permanence and reliability over the long term. Further, such an alternative would require much less oversight to ensure that protective land uses are maintained.</p>	<p>USACE will evaluate a cleanup alternative in the FS with unrestricted land use cleanup levels on all properties except MISS and Stepan. USACE believes long-term institutional controls are realistically implementable on MISS and Stepan. The subsurface 15 pCi/g restricted use cleanup level will be used for MISS and Stepan. USACE is currently evaluating the cost differential with the change in cleanup goals. Based on the limited sampling data density outside of the MISS and Stepan properties, volume calculations of contaminated material are uncertain. Calculating the increase in volume when changing cleanup standards multiplies the uncertainty. USACE's initial estimate is approximately 100% volume increase when the cleanup level moves from 15pCi/g to 5 pCi/g. A 100% volume increase on all properties except MISS and Stepan would add approximately 75 million dollars and several years to the remedial action.</p> <p>Even with the use of unrestricted use cleanup levels on the remaining properties, many of these properties will still require institutional controls due to inaccessible materials beneath buildings, thoroughfares, utility lines, etc. USACE believes the cost and the socio-economic impact to the area (impacted traffic patterns, loss of business during razing/reconstruction of buildings, relocations, etc.) outweigh the benefits of removing the risk from limited future exposure to these inaccessible materials. Health assessments of the buildings with inaccessible materials will be conducted during the design phase and at regular intervals thereafter to verify these conclusions on a case-by-case basis. The unrestricted use cleanup level will be evaluated along with the previously presented alternatives according to the nine criteria established by EPA under CERCLA for the analysis of alternatives. USACE will consider the impacts of these changes, both in the short term and long term, in the development of the final proposed plan.</p>
2		<p>The site review package did not provide information sufficient to show that the preferred alternative will be protective for reasonable anticipated commercial use</p>	<p>The site-specific risk assessment information is based on cleanup to 15 pCi/g for commercial use and to 5pCi/g for residential use.</p>

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		scenarios. As a result, the Board is concerned that the preferred alternative may limit even commercial development of the site.	<p>USACE believes that sufficient risk assessment information exists to support the protectiveness of remediation to a level of 15 pCi/g under restricted commercial use. The properties cleaned under the commercial use criteria would have no less than a foot of clean cover over any remaining contamination. In fact, most of the site would have many feet (up to 10 feet in places) of clean cover since all backfill material will be clean material. The cover material would be maintained under a grassy lawn or asphalt paving that would be regularly mowed and/or maintained.</p> <p>USACE is developing a plan to address infrequent invasive activities in areas such as utility corridors where inaccessible soils remain. This plan would be used to develop a cooperative agreement between the affected parties to deal with inaccessible materials as they become available. The agreement would also address actions needed for infrequent invasive activities (such as utility line work).</p>
3		The Corps should establish a relationship between excavation depths and land use scenarios to ensure the effectiveness of the cleanup over the long term. The excavation depths should consider the possible effects of radon contamination in structures that may be built on the site in the future.	<p>USACE will evaluate the relationship between concentrations of contaminated soils and associated depths of contamination during remedial design. Following remediation, all surface soils will be 5 pCi/g or below. In addition, a minimum of 1 foot of clean cover material will be placed over the remediated areas. USACE recognizes the possibility of future radon contamination at the site. The remedial design package will address the extent of radon monitoring necessary following remediation. Extensive radon monitoring has been conducted in building with suspected inaccessible contaminated soils. To date no radon exceedances have been documented in buildings or structures where subsurface contamination will remain (until made accessible).</p>
4		The Board recommends that the Corps' alternatives analysis include requirements to excavate contamination underneath roads and buildings as it becomes accessible, and estimate the cost to carry out this important part of the remedy.	<p>USACE is preparing an estimate of the requirements to excavate contaminated material beneath roadways and buildings. In general, the costs that would be incurred in the future when inaccessible materials become accessible would be the differential between Alternative 2 and Alternative 5 (plus the costs associated with the removal of material below Route 17). The estimate for the future removal of inaccessible soils under currently occupied structures assumes that the government will not be responsible for reconstruction or impacts to business operations. This assumption is based upon the expectancy that the soils would</p>

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			<p>only become accessible when the useful life of the structure has been exceeded and the owner intends to rebuild. USACE has not included reconstruction costs and loss of business expenses in Alternative 5 (excavation of inaccessible soils with the remedial action). Likewise for excavation of inaccessible soils at a later date under Alternative 2, multiple future mobilizations, design costs, procurement and other in-house costs have not been included. Although not negligible, these costs wouldn't significantly impact the costs in the FS for the various alternatives. The costs (time, money, and impact to the community) of excavating the material below Route 17 greatly depends on the accessibility of the soils. USACE has estimated the removal of material under Route 17 without impacting traffic (construction of a traffic diversion or tunneling to remove material) would exceed \$25,000,000. If excavation would coincide with a NJ DOT reconstruction effort, the costs associated with rerouting traffic would not be included in the remedial action</p>
5		<p>The preferred alternative does not specify the institutional controls that the Corps will use to restrict certain land uses. OSWER Guidance No. 9355.7-04 "Land Use in the CERCLA Remedy Selection Process" (May 25, 1995) directs site managers to "...determine the type of institutional control to be used, the existence of the authority to implement the institutional control, and the appropriate entity's resolve and ability to implement...the control." The Board recommends that the Corps perform such an analysis and include it in the decision documents for this action.</p>	<p>USACE is pursuing an analysis of the legal ramifications of implementing institutional controls and the available mechanisms to ensure such controls are implementable. This analysis will be included in the Record of Decision. Where institutional controls are unobtainable and/or unenforceable, unrestricted use cleanup levels will be used.</p>
6		<p>The site review package did not provide information sufficient to determine whether some of the alternatives considered meet the NCP standards for protectiveness and compliance with "applicable or relevant and appropriate requirements" (ARARs). In particular, the Board questions why the Corps carried out a detailed analysis of Alternative 6 and included it in the proposed plan, given that the proposed soil cleanup level of 50 pCi/g for thorium and radium does not appear to meet the NCP definition of protectiveness. Further, the Board recommends that the Corps explain in the decision documents how the different alternatives address such basic NCP requirements as state ARARs and other criteria or guidance "to be considered" (e.g., OSWER Guidance No. 9200.4-25 "Use of CFR Part 192 Soil Cleanup Criteria as Remediation Goals for CERCLA Sites" (February 12, 1998)).</p>	<p>The Feasibility Study includes a risk assessment of the residual risk associated with each of the alternatives. The maximum estimated exposure to potential residents at the site following remediation to the 5 pCi/g criteria was 4.8 mrem/yr which was well below the 15 mrem/yr generally accepted by EPA. The associated lifetime cancer risk was estimated to be within the NCP risk range. The maximum estimated exposure to potential workers at the site following remediation to the 15 pCi/g subsurface criteria was 4 mrem/yr, which is also below 15 mrem/yr. This information is outlined in Appendix C of the FS. In addition, calculation packages to support this information are available.</p> <p>Alternative 6 was included as an alternative with enforceable</p>

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			<p>restricted land use of MISS. Since this property is federally owned, it was assumed that extensive deed restrictions could be imposed along with continued federal stewardship of the property. With sufficient institutional and engineering controls, a risk analysis demonstrated that potential exposures would remain within the NCP risk range. However, based on input from the Maywood Cooperative Guidance Group, EPA Region II, and the EPA National Remedy Review Board, USACE has elected to remove this alternative from any further consideration. Thus, this alternative has been deleted from the FS and PP.</p> <p>The Feasibility Study identifies ARARs and TBCs, including State requirements. The Record of Decision (ROD) for the Maywood Site will incorporate discussions concerning implementation of ARARs and TBC guidance. Mechanisms to ensure that institutional controls remain in place where appropriate will also be discussed in the ROD.</p>
7		Based on experience at other Superfund sites, the Board believes that the Corps' evaluation may have underestimated the costs and overestimated the effectiveness of soil washing in treating contaminated soils. Nonetheless, the Board encourages the Corps to continue exploring ways to reduce off-site disposal costs as they design and implement the remedy.	<p>Prior to the receipt of the Board's comments on the treatment alternative, USACE revised many of the assumptions used by DOE concerning treatment costs and effectiveness for the Maywood soils. The revised assumptions are more conservative (i.e. treatment is assumed to cost more and be less effective). The costs associated with the treatment alternative have been adjusted accordingly. USACE will continue to evaluate treatment in pursuit of cost effective measures for remediation.</p>
8		Considering their emphasis on "beneficial reuse," the Board questions whether Alternatives 2b and 5b are implementable. The site review package provided little information to suggest any realistic beneficial reuse opportunities.	<p>Prior to the receipt of the Board's comments on the beneficial reuse options, USACE had re-evaluated the DOE assumptions that beneficial reuse was feasible. Beneficial reuse options have not been identified for the site soils. Therefore, the beneficial reuse alternatives have been removed from consideration.</p>